

I CLAIM:

1. A communications system, comprising:

a transmitter, comprising:

a light source for generating a directed light beam modulated to transmit
a data signal;

5 a controllable mirror for directing the light beam toward a receiver;

a photodiode for receiving light reflected from substantially the same
direction as the light is directed by the mirror; and

control circuitry, coupled to the photodiode and to the mirror, for
controlling the aim of the mirror; and

10 a receiver, comprising:

a lens;

a photodiode for receiving incident light from the transmitter through the
lens; and

15 a reflective ring surrounding the lens, for reflecting incident light from
the transmitter back to the transmitter.

2. The system of claim 1, wherein the mirror comprises:

a mirror element formed of a single piece of crystalline material, the
mirror element having a frame, a mirror surface, and a plurality of hinges.

3. The system of claim 1, wherein the reflective ring comprises a plurality of
corner cube elements.

4. The system of claim 1, wherein the light source comprises a laser.

5. The system of claim 4, wherein the transmitter further comprises:

a lens for spreading the modulated laser beam to have a spot size approximately the same size as an outer diameter of the reflective ring.

6. A method of transmitting data signals, comprising:

generating a modulated light beam;

orienting a micromirror to reflect the modulated light beam toward a receiver;

5 receiving reflected light from the transmitter; and

adjusting the orientation of the micromirror responsive to the received reflected light.

7. The method of claim 6, wherein the adjusting step comprises:

iteratively adjusting the orientation of the micromirror to maximize the intensity of the received reflected light.

* * * * *